



## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 39

[Docket No. FAA-2021-1070; Project Identifier 2020-CE-004-AD; Amendment 39-22214; AD 2022-21-15]

RIN 2120-AA64

#### Airworthiness Directives; Diamond Aircraft Industries GmbH Airplanes

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final rule.

**SUMMARY:** The FAA is adopting a new airworthiness directive (AD) for certain Diamond Aircraft Industries GmbH (DAI) Model DA 42, DA 42 NG, and DA 42 M-NG airplanes. This AD is prompted by mandatory continuing airworthiness information (MCAI) issued by the aviation authority of another country to identify and correct an unsafe condition on an aviation product. The MCAI describes the unsafe condition as a loose rudder T-yoke axle nut. This AD requires replacing the rudder T-yoke axle with an improved rudder T-yoke axle. The FAA is issuing this AD to address the unsafe condition on these products.

**DATES:** This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

#### ADDRESSES:

*AD Docket:* You may examine the AD docket at [regulations.gov](https://www.regulations.gov) under Docket No.FAA-2021-1070; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday

through Friday, except Federal holidays. The AD docket contains this final rule, the MCAI, any comments received, and other information. The address for Docket Operations is U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

*Material Incorporated by Reference:*

- For service information identified in this final rule, contact Diamond Aircraft Industries GmbH, N.A. Otto-Straße 5, A-2700 Wiener Neustadt, Austria; phone: +43 2622 26700; fax: +43 2622 26780; email: [office@diamond-air.at](mailto:office@diamond-air.at); website: [diamondaircraft.com](http://diamondaircraft.com).

- You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 901 Locust, Kansas City, MO 64106. For information on the availability of this material at the FAA, call (817) 222-5110. It is also available at [regulations.gov](http://regulations.gov) under Docket No. FAA-2021-1070.

**FOR FURTHER INFORMATION CONTACT:** Penelope Trease, Aviation Safety Engineer, General Aviation & Rotorcraft Section, International Validation Branch, FAA, 26805 E. 68th Avenue, Denver, CO 80249; phone: (303) 342-1094; email: [penelope.trease@faa.gov](mailto:penelope.trease@faa.gov).

**SUPPLEMENTARY INFORMATION:**

**Background**

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to certain serial-numbered DAI Model DA 42, DA 42 NG, and DA 42 M-NG airplanes. The NPRM published in the *Federal Register* on December 14, 2021 (86 FR 70987). The NPRM was prompted by MCAI originated by the European Union Aviation Safety Agency (EASA), which is the Technical Agent for the Member States of the European Union. EASA issued EASA AD 2019-0302, dated

December 13, 2019 (referred to after this as “the MCAI”), to address the unsafe condition on DAI Model DA 42, DA 42 M, DA 42 NG, and DA 42 M-NG airplanes. The MCAI states:

Occurrences were reported of finding a loose rudder T-yoke axle nut on DA 42 aeroplanes.

This condition, if not detected and corrected, could lead to vertical movement of the axle, possibly resulting in reduced rudder control of the aeroplane.

To address this potential unsafe condition, DAI issued the applicable MSB [Mandatory Service Bulletin], providing instructions to inspect for correct installation of the self-locking nut to the affected part.

For the reason described above, this [EASA] AD requires repetitive inspections for correct installation of the self-locking nut to the affected part and, depending on findings, accomplishment of applicable corrective action(s) and replacement of the self-locking nut. This [EASA] AD also provides an optional terminating action for the repetitive inspections.

You may examine the MCAI in the AD docket at [regulations.gov](https://www.regulations.gov) by searching for and locating Docket No. FAA-2021-1070.

In the NPRM, the FAA proposed to require replacing the rudder T-yoke axle with an improved rudder T-yoke axle. The FAA is issuing this AD to prevent movement of the T-yoke axle. The unsafe condition, if not addressed, could result in reduced control of the airplane.

## **Discussion of Final Airworthiness Directive**

### **Comments**

The FAA received one comment from DAI. The following presents the comment received on the NPRM and the FAA’s response to the comment.

### **Request to Include New Mandatory Service Bulletin Published by DAI in the**

## **NPRM**

DAI requested that the FAA revise the NPRM to include recently published Diamond Aircraft Mandatory Service Bulletin DAI MSB 42-143 and MSB 42NG-086, dated December 23, 2021 (issued as one document), and explained this service bulletin further rectifies the unsafe condition of the movement of the T-yoke axle by specifying instructions to apply torque seal marks to the head of the T-yoke axle and to the self-locking nut. DAI further explained that the temporary revision of the aircraft maintenance manual (AMM) specifies visual inspection of these torque seal marks during every annual inspection. According to DAI, the additional visual inspection of the torque seal marks incorporated in Diamond Aircraft Mandatory Service Bulletin DAI MSB 42-143 and MSB 42NG-086, dated December 23, 2021, replaces the “Inspection of Rudder T-yoke axle Nut for Looseness” section of Diamond Aircraft Mandatory Service Bulletin DAI MSB 42-137/1 and MSB 42NG-079/1, dated December 11, 2021 (issued as one document), that was previously mandated by EASA AD 2019-0302.

The FAA disagrees. In the NPRM, the FAA did not propose to require the repetitive inspection of the T-yoke axle nut, as specified in Diamond Aircraft Mandatory Service Bulletin DAI MSB 42-137/1 and MSB 42NG-079/1, dated December 11, 2021, to correct the unsafe condition, but instead proposed to require replacement of the rudder T-yoke axle with an improved rudder T-yoke axle. Therefore, Diamond Aircraft Mandatory Service Bulletin DAI MSB 42-143 and MSB 42NG-086, dated December 23, 2021, is not required by the FAA to correct the unsafe condition. If EASA issues an AD to mandate additional actions specified in DAI service information, the FAA will evaluate the requirements in the EASA AD and consider additional rulemaking.

## **Conclusion**

These products have been approved by the aviation authority of another country and are approved for operation in the United States. Pursuant to the FAA’s bilateral

agreement with this State of Design Authority, it has notified the FAA of the unsafe condition described in the MCAI and service information referenced above. The FAA reviewed the relevant data, considered the comment received, and determined that air safety requires adopting this AD as proposed. Accordingly, the FAA is issuing this AD to address the unsafe condition on these products. This AD is adopted as proposed in the NPRM.

#### **Related Service Information under 1 CFR Part 51**

The FAA reviewed Diamond Aircraft Recommended Service Bulletin DAI RSB 42-139 and DAI RSB 42NG-081, dated October 21, 2019 (issued as one document), published with DAI Work Instruction WI-RSB 42-139 and WI-RSB 42NG-081, Revision 1, dated October 24, 2019 (issued as one document) attached. The service bulletin specifies complying with the work instruction, which contains procedures for replacing the rudder T-yoke axle with an improved (additional retaining pin) rudder T-yoke axle. This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in ADDRESSES.

#### **Differences Between this AD and the MCAI**

The MCAI applies to the Model DA 42 M airplane, and this AD does not because it does not have an FAA type certificate.

The MCAI requires repetitively inspecting the self-locking nut until the rudder T-yoke axle is replaced with improved part number (P/N) D60-5320-00-32. This AD requires installing rudder T-yoke axle P/N D60-5320-00-32 and does not have an inspection requirement.

#### **Costs of Compliance**

The FAA estimates that this AD affects 193 airplanes of U.S. registry. The FAA estimates that it would take about 6 work-hours to replace the rudder T-yoke axle and

require parts costing \$166. The average labor rate is \$85 per work-hour. Based on these figures, the FAA estimates the cost of this AD on U.S. operators to be \$130,468 or \$676 per airplane.

### **Authority for this Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

### **Regulatory Findings**

This AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

- (1) Is not a "significant regulatory action" under Executive Order 12866,
- (2) Will not affect intrastate aviation in Alaska, and
- (3) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

## **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

### **The Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

### **PART 39 - AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

2. The FAA amends § 39.13 by adding the following new airworthiness directive:

**2022-21-15 Diamond Aircraft Industries GmbH:** Amendment 39-22214; Docket No. FAA-2021-1070; Project Identifier 2020-CE-004-AD.

#### **(a) Effective Date**

This airworthiness directive (AD) is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

#### **(b) Affected ADs**

None.

#### **(c) Applicability**

This AD applies to Diamond Aircraft Industries GmbH Model DA 42, DA 42 NG, and DA 42 M-NG airplanes, serial numbers 42.004 through 42.391, 42.394 through 42.396, 42.399 through 42.402, 42.405 through 42.416, 42.427, 42.AC001 through 42.AC135, 42.AC137 through 42.AC145, 42.AC148, 42.AC150 through 42.AC152, 42.MN001 through 42.MN034, 42.MN037 through 42.MN042, 42.MN050 through 42.MN055, 42.MN057, 42.MN058, 42.MN100 through 42.MN103, 42.N001 through 42.N067, 42.N100 through 42.N250, 42.N300 through 42.N381, 42.N391, 42.NC001 through 42.NC004, and 42.NC006 through 42.NC008, certificated in any category.

**(d) Subject**

Joint Aircraft System Component (JASC) Code 5320, Fuselage Miscellaneous Structure.

**(e) Unsafe Condition**

This AD was prompted by mandatory continuing airworthiness information (MCAI) issued by the aviation authority of another country to identify and correct an unsafe condition on an aviation product. The MCAI describes the unsafe condition as a loose rudder T-yoke axle nut. The FAA is issuing this AD to prevent movement of the T-yoke axle. The unsafe condition, if not addressed, could result in reduced control of the airplane.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Required Actions**

(1) Within 100 hours time-in-service after the effective date of this AD or 12 months after the effective date of this AD, whichever occurs first, replace rudder T-yoke axle part number (P/N) LN 9037-M6x90 with rudder T-yoke axle P/N D60-5320-00-32 in accordance with the Instructions, section III, in Diamond Aircraft Work Instruction WI-RSB 42-139 and WI-RSB 42NG-081, Revision 1, dated October 24, 2019 (issued as one document) attached to Diamond Aircraft Recommended Service Bulletin DAI RSB 42-139 and DAI RSB 42NG-081, dated October 21, 2019.

(2) As of the effective date of this AD, do not install rudder T-yoke axle P/N LN 9037-M6x90 on any airplane.

**(h) Alternative Methods of Compliance (AMOCs)**

(1) The Manager, International Validation Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local

Flight Standards District Office, as appropriate. If sending information directly to the manager of the certification office, send it to the attention of the person identified in paragraph (i)(1) and email to: 9-AVS-AIR-730-AMOC@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

**(i) Additional Information**

(1) For more information about this AD, contact Penelope Trease, Aviation Safety Engineer, General Aviation & Rotorcraft Section, International Validation Branch, FAA, 26805 E. 68th Avenue, Denver, CO 80249; phone: (303) 342-1094; email: penelope.trease@faa.gov.

(2) Refer to European Union Aviation Safety Agency (EASA) AD 2019-0302, dated December 13, 2019, for related information. This EASA AD may be found in the AD docket at regulations.gov under Docket No. FAA-2021-1070.

**(j) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) Diamond Aircraft Recommended Service Bulletin DAI RSB 42-139 and DAI RSB 42NG-081, dated October 21, 2019 (issued as one document), published with DAI Work Instruction WI-RSB 42-139 and WI-RSB 42NG-081, Revision 1, dated October 24, 2019 (issued as one document) attached.

(ii) [Reserved]

(3) For service information identified in this AD, contact Diamond Aircraft Industries GmbH, N.A. Otto-Straße 5, A-2700 Wiener Neustadt, Austria; phone: +43 2622 26700; fax: +43 2622 26780; email: [office@diamond-air.at](mailto:office@diamond-air.at); website: [diamondaircraft.com](http://diamondaircraft.com).

(4) You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 901 Locust, Kansas City, MO 64106. For information on the availability of this material at the FAA, call (817) 222-5110.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, email: [fr.inspection@nara.gov](mailto:fr.inspection@nara.gov), or go to: [www.archives.gov/federal-register/cfr/ibr-locations.html](http://www.archives.gov/federal-register/cfr/ibr-locations.html).

Issued on October 7, 2022.

Christina Underwood, Acting Director,  
Compliance & Airworthiness Division,  
Aircraft Certification Service.

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